MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION
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DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

Johns Manville Corporation
717 17th Street
Denver, CO 80202

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Johns Manville Modified Bitumen Roofing Systems over Recover Deck.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 12-0203.09 and consists of pages 1 through 53.
The submitted documentation was reviewed by Jorge L. Acebo.

MIAMI-DADE COUNTY APPROVED

ROOFING SYSTEM APPROVAL

Category:	Roofing
Sub-Category:	Modified Bitumen
Materials:	SBS
Deck Type:	Recover
Maximum Design Pressure:	See Specific Deck Type

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

Product	Dimensions	Test Specification	Product Description
DynaBase	54'-10" x 36"	ASTM D6163 Type I Grade S	An SBS modified bitumen coated, fiber glass reinforced base sheet.
DynaWeld Base	39'-3/8" x 32'-10"	ASTM D6163 Type I Grade S	An SBS modified bitumen coated, fiberglass reinforced base sheet for heat welded applications.
DynaWeld 180 S Base	39-3/8" x 32'-10"	ASTM D6164 Type I Grade S	An elastomeric modified bitumen coated, 180 gram, nonwoven polyester mat and bi-directional glass scrim reinforced, base sheet for heat welded applications.
DynaGlas	39-3/8" x 32'-10".	ASTM D6163 Type I Grade G	An SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaWeld Cap FR	39'-3/8" x 32'-10"	ASTM D6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for heat weld applications.
DynaWeld Cap 180 FR	39-3/8" x 32'-10"	ASTM D6164 Type I Grade G	A fire resistant, 180 gram polyester reinforced, SBS modified bitumen sheet.
DynaGlas 30 FR	39-3/8" x 32'-10"	ASTM D6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaGlas FR	39-3/8" x 32'-10"	ASTM D6163 Type I Grade G	A fire resistant SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaKap T1	39-3/8" x 32'-10"	ASTM D6162 Type I Grade G	A fiberglass/polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaKap FR T1	39-3/8" x 32'-10"	ASTM D6162 Type I Grade G	A fire resistant, fiberglass/ polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaLastic 180	39-3/8" x 32'-10"	ASTM D6164 Type I Grade G	A 180 gram polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaLastic 180 FR	39-3/8" x 32'-10"	ASTM D6164 Type I Grade S	A 180 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems.

Product	Dimensions	Test Specification	Product Description
DynaLastic 180S	37” x 36’-9”	ASTM D6164 Type I Grade S	A 180 gram polyester mat reinforced, modified bitumen cap sheet for use in fire-rated systems.
DynaPly T1	39-3/8" x 32’-10”	ASTM D6162 Type II Grade S	A polyester reinforced SBS modified bitumen ply sheet for use in conventional and modified bitumen built-up roof systems.
DynaLastic 250	39-3/8" x 32’-10”	ASTM D6164 Type II Grade G	A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet.
DynaLastic 250 FR	39-3/8" x 32’-10”	ASTM D6164 Type II Grade G	A 250 gram polyester mat reinforced, granular-surfaced, modified bitumen cap sheet for use in fire-rated systems.
DynaLastic 250 S	39-3/8" x 32’-10”	ASTM D6164 Type II Grade S	A 250 gram polyester reinforced, SBS modified bitumen Base/Ply sheet for use as a base or ply sheet only.
DynaMax FR	39-3/8" x 32’-10”	ASTM D6162 Type III Grade G	A fire resistant, fiberglass/ polyester reinforced SBS modified bitumen membrane surfaced with granules for application in hot asphalt.
DynaClad	39-3/8" x 33’-6”	ASTM D6298	An aluminum foil faced, glass reinforced, SBS modified membrane for application in hot asphalt.
DynaBase XT	39-3/8" x 49’-2”	ASTM D6163 Type I Grade S	A heavyweight glass reinforced SBS Base/Ply sheet.
DynaGlas FR XT	39-3/8" x 32’-10” .	ASTM D6163 Type I Grade S	A heavyweight glass reinforced granular surfaced SBS Cap sheet.
GlasKap	36” x 36’	ASTM D3909	A mineral surfaced, asphalt coated, fiberglass cap sheet.
GlasKap CR	36” x 36’	ASTM D3909	A white mineral surfaced, white acrylic coated, fiberglass cap sheet.
Ventsulation Felt	36" x 36'	ASTM D4897 Type II	Heavy duty fiber glass base sheet impregnated and coated on both sides with asphalt with or without fine mineral stabilizer. Surfaced on the bottom side with coarse mineral granules embedded in asphaltic coating.
GlasBase Plus	36" x 108'	ASTM D4601	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
GlasPly IV	36" x 180'	ASTM D2178 Type IV	Type IV asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.
GlasPly Premier	36" x 180'	ASTM D2178 Type VI	Type VI asphalt impregnated glass felt for use in conventional and modified bitumen built-up roofing.

Product	Dimensions	Test Specification	Product Description
PermaPly 28	36" x 106'	ASTM D4601 Type II	Type II asphalt impregnated and coated glass fiber base sheet for use in conventional and modified bitumen built-up roofing.
FesCant Plus Cant Strips, and Taper Edge	various	ASTM C728	Factory pre-fabricated cant strips and taper edge, manufactured from expanded perlite insulation.
MBR Flashing Cement Base and Activator	N/A	Proprietary	A two component elastomeric, cold application adhesive, consisting of a modified proprietary compound with an asphalt base.
MBR Bonding Adhesive	N/A	Proprietary	A two component urethane cold application adhesive.
JM Two Part Urethane Insulation Adhesive	N/A	Proprietary	A two-part urethane insulation adhesive
Bestile Industrial Roof Cement	various	ASTM D 4586, type I	A trowel grade, cutback bitumen flashing grade cement mixture including inorganic fibers and mineral stabilizers.
Flex-I-Drain	various	BOCA 76-61 SBCCI 89204 UBC 3236	Two piece flexible drain system composed of a Noryl deck flange, a flexible neoprene bellows and no hub connection. Available in various sizes and styles for most retro-fit applications.
PC/PET RetroDrain	various	N/A	Engineered resin copolymer fabricated drain for retrofit applications.
USII RetroDrain	various	N/A	One piece, aluminum fabricated drain for retrofit applications.
SuperDome RetroDrain	various	N/A	Cast aluminum, heavy-duty drain for retrofit applications.
FP-10 Vents	10" deck flange, base diameter of 4" and a height of 6"	N/A	One-way roof vent, designed for use in various roof systems, for the release of pressure created by gases or moisture vapor trapped within the roofing system.
Expand-O-Guard	various	N/A	Elastomeric expansion joint cover for vertical expansion and seismic joints. Manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges.
Expand-O-Flash	various	N/A	Expansion joint covers manufactured from non-reinforced, form-supported elastomeric bellows with a bifurcated waterproof attachment to metal flanges.

Product	Dimensions	Test Specification	Product Description
Presto-Lok Fascia and Flashing System	various	TAS 114	A multi-piece fascia and flashing system for built-up and modified bitumen roofing systems manufactured from aluminum or steel.
DynaTred & DynaTred Plus Roof Walkway	various	N/A	Preformed, skid-resistant boards.

APPROVED INSULATIONS:

TABLE 2

Product Name	Product Description	Manufacturer (With Current NOA)
ENRGY 3	Polyisocyanurate Insulation.	Johns Manville
Fesco Foam, DuraFoam	Polyisocyanurate Insulation with perlite facer	Johns Manville
Retro-Fit Board, DuraBoard	High-density perlite roof insulation.	Johns Manville
Fesco Board	Rigid perlite roof insulation board.	Johns Manville
Invinsa Roof Board	High density polyisocyanurate board	Johns Manville
DensDeck, DensDeck Prime	Silicon treated gypsum	Georgia Pacific Gypsum, LLC
SECUROCK Gypsum-Fiber Roof Board	Rigid, gypsum-based board stock	USG Corp.

APPROVED FASTENERS:

TABLE 3

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	UltraFast Fastener	Insulation fastener for wood and steel or Concrete (#12).	Various	Johns Manville
2.	UltraFast 3" Round Metal Plate or UltraFast Square Recessed Metal Plate	Galvalume AZ55 steel plate	3" round 3" square	Johns Manville
3.	UltraFast Plastic Plate	High Density Polyolefin round plate	3" round	Johns Manville
4.	Lightweight Concrete (LWC) CR Base Fastener	Galvanized double spreading leg fastener for securing base sheets to lightweight insulating concrete.	1.2" or 1.7" leg length; 2.7" dia. Plate	Johns Manville
5.	Twin Loc-Nail	Base sheet fastener with integrated Plate.	2.7" dia. Plate	ES Products, Inc.
6.	High Load Fasteners and Plates	#15 fasteners and 20 gauge metal plates	2-3/8" round	Johns Manville
7.	Ultralok	Base sheet fastener with integrated plate	2.7" dia. Plate	Johns Manville
8.	JM Structural Concrete Fasteners	Insulation fastener for concrete decks.	Various	Johns Manville
9.	#12 Roofgrip Fasteners	Insulation fastener for wood and steel.	Various	OMG, Inc.

EVIDENCE SUBMITTED:

Test Agency/Identifier	Name	Report	Date
Factory Mutual Research	3001482	FM 4470	08/11/98
	3001629	FM 4470	09/10/98
	0Z8A9.AM	FM 4470	09/10/98
	3D4A4.AM	FM 4470	09/28/98
	3000949	FM 4470	06/05/98
	3003468	FM 4450	02/02/00
	3006346	FM 4450	08/15/00
	3012974	FM 4450	06/03/02
	3011248	FM 4470	11/01/02
	3009499	FM 4470	04/04/01
	3001457	FM 4470	03/04/02
	3014090	FM 4470	09/05/02
	3020600	FM 4470	01/21/05
	3026130	FM 4470	04/26/06
	3026151	FM 4470	08/15/06
	3026728	FM 4470	11/22/06
	3037222	FM 4470	10/02/09
	3026130	FM 4470	04/26/09
Dynatech Engineering, Inc.	4360.03.95-1	TAS 114	03/95
	4360.03.95-2	TAS 114	03/95
	4361.5.95-1	TAS 114	05/95
Underwriters Laboratories, Inc.	R10167	UL 790	05/27/13
Exterior Research & Design, LLC	#4361-2.04.97-1	TAS 114	04/28/97
	#4361-2.04. -1	TAS 114	04/00/97
	#10390A-10.97-1	TAS 114	10/00/97
	#10390A-12.97-1		12/00/97
	#10391.01.03	TAS 114	01/29/03
	02843.02.05-10	TAS 114	02/10/05
	00257.03.05-1	ASTM D6162/D6163 ASTM D6164/D6298	03/17/05
Trinity|ERD	02843.02.07	TAS 114	02/07/07
	J6990.12.07-R1	ASTM D6162/D6164	03/24/10
	J7670.06.08	ASTM D3909	06/16/08
	J13700.05.10-1-R1	ASTM D5147/D6163	01/25/11
	J13700.05.10-2	ASTM D5147/D6164	05/11/10
	J17040.11.09-R1	ASTM D6164	03/11/10
Independent Roof Testing & Consultants of South Florida	IRT 9900(1-16)	TAS 114	01/20/99 02/10/99
IRT-Arcon, Inc.	02-011	TAS 114	02/07/02
	02-026		07/26/02

EVIDENCE SUBMITTED: (CONT.)

Test Agency/Identifier	Name	Report	Date
Atlantic & Caribbean Roof Consulting, LLC.	ACRC 06-003	TAS 114	03/27/06
PRI Construction Materials Technologies, LLC	JMC-066-02-01	ASTM D6163	06/04/12
	JMC-065-02-01	ASTM D6163	05/29/12
	JMC-070-02-01	ASTM D2178 Type IV	04/17/12
	JMC-071-02-01	ASTM D2178 Type VI	04/17/12
	JMC-072-02-01	ASTM D4601 Type II	06/14/12
	JMC-074-02-01	ASTM D4897 Type II	04/17/12
	JMC-075-02-04	ASTM D5147/D6164 Type II	08/03/12
	JMC-078-02-01	ASTM D5147/D6298	07/17/12
	JMC-081-02-01.02	TAS 117 B & C	06/11/12
	JMC-091-02-01	ASTM D4601 Type I	06/04/12
	JMC-093-02-01	ASTM D4601 Type II	08/02/12

APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Wood / Steel

System Type A(1): Anchor sheet mechanically fastened; all layers of insulation fully adhered with approved asphalt.

All General and System limitations apply.

Anchor Sheet: One ply of GlasPly Premier, PermaPly 28 or Ventsulation fastened to the deck as described below:

Fastening: Anchor sheet shall be lapped 3" and fastened with JM Ultrafast screws and 3" plates, 8" o.c. at the lap and three rows staggered in the center of the sheet 8" o.c.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners (Table 3)	Fastener Density/ft^2
ENRGY 3 **Minimum 1.3" thick**	**N/A**	**N/A**
Base or Top Insulation Layer **Fesco Foam, DuraFoam** **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board, DuraBoard **Minimum ½" thick**	**N/A**	**N/A**

Note: All insulation shall be adhered to the anchor sheet in full mopping of approved hot asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Note: Anchor sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly 28, DynaBase, DynaBase XT or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet:	(Optional if base sheet used) One or more plies of GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaBase, DynaBase XT or DynaPly T1 adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.
Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Concrete

System Type A(2): All layer of insulation adhered. Membrane is subsequently fully or partially adhered.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3		
Minimum 1.5 thick	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DuraBoard		
Minimum ½" thick	**N/A**	**N/A**
Fesco Board		
Minimum ¾" thick	**N/A**	**N/A**

Note: All layers of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2 Please refer to Roofing Application Standard RAs 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) One ply of GlasBase, GlasBase Ventsulation, PermaPly 28, DynaBase, DynaBase XT or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane: One ply of DynaClad, DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Maximum Design Pressure: -120 psf. (See General Limitation #9).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Wood / Steel / Concrete

System Type B(1): Base layers of insulation mechanically fastened, top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.3" thick**	**1 with 2**	**1:4 ft²**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**1 with 2**	**1:4 ft²**
Fesco Board, DuraBoard **Minimum 1" thick**	**1 with 2**	**1:4 ft²**
Retro-Fit Board **Minimum ½" thick**	**1 with 2**	**1:4 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

One or more layers of any of the following insulations:

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board, DuraBoard **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board **Minimum ½" thick**	**N/A**	**N/A**

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet:	(Optional) One ply of PermaPly 28, DynaBase, DynaBase XT or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Ply Sheet:	One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180S or DynaPly T1 adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.
Membrane:	One ply of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #9).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Wood / Steel / Concrete

System Type B(2): Base layer of insulation mechanically attached, top layer fully adhered with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3		
Minimum 1.5" thick	**1 with 2**	**1:1.3 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DuraBoard		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2 or with MBR Bonding Adhesive with a notched squeegee at 2 gallons per square. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly 28, DynaBase, DynaBase XT or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square.

Ply Sheet: (Optional if base sheet used) One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or insulation top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square or one ply DynaWeld Base heat welded to a base sheet.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive with a notched squeegee at 1.5 to 2.0 gallons per square.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-60 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type B(3): Base layer of insulation mechanically fastened, top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 2" thick	**1 with 2**	**1:1.45 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any insulations listed for Base Layer, above, except ENRGY 3		
Retro-Fit Board, DuraBoard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional if base sheet used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation). Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-75 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type B(4): Base layer of insulation mechanically fastened, top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**1 with 2**	**1:1.78 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any insulations listed for Base Layer, above, except ENRGY 3		
Retro-Fit Board, DuraBoard Minimum ½" thick	**N/A**	**N/A**

Note: Top layer of insulation shall be adhered with approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Composite insulation boards used as a top layer shall be installed with the polyisocyanurate face down.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional if base sheet used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation). Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-60 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type B(5): Base layer of insulation mechanically fastened, top layer fully adhered with approved asphalt.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**1 with 2**	**1:2 ft²**
Fesco Board, DuraBoard Minimum 1" thick	**1 with 2**	**1:2 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Any insulations listed for Base Layer, above, except ENRGY 3		
Retro-Fit Board, DuraBoard Minimum ½" thick	**N/A**	**N/A**
Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board Minimum 1" thick	**N/A**	**N/A**

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as Base Layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels may be used as a top layer placed with the polyisocyanurate side facing down.

Base Sheet: (Optional) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet:	One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.
Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. (See application instructions for approved method of installation). Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type B(6): Base layer of insulation mechanically fastened, top layer fully adhered with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3		
Minimum 2" thick	**1 with 2**	**1:2 ft²**

Note: Base layers of insulation shall be mechanically attached using the fastener density listed. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Protocol TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board		
Minimum 3/8" thick	**N/A**	**N/A**

Note: Apply top layer of insulation in a full mopping of any approved mopping asphalt within the EVT range and at a rate of 20-40 lbs./100 ft^2 or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or in continuous ¾-inch diameter beads of OlyBond 500 (SpotShot) or JM Two Part Urethane Insulation Adhesive spaced 12-inch o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Ply Sheet: Two or more plies of GlasPly Premier, GlasPly IV, GlasBase, GlasBase Plus, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.

Membrane: One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Maximum Design Pressure: -60 psf. (See General Limitation #7)

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Wood / Steel / Concrete

System Type C(1): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.3" thick**	**N/A**	**N/A**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board, DuraBoard **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board **Minimum ½" thick**	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam **Minimum 1.5" thick**	**1**	**1:4 ft²**
Fesco Board, DuraBoard **Minimum ¾" thick**	**1**	**1:4 ft²**
Retro-Fit Board **Minimum ½" thick**	**1**	**1:4 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional) One ply of PermaPly 28, DynaBase, DynaBase XT or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One ply of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #9).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(2): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board, DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DuraBoard Minimum ¾" thick	**1 with 2**	**1:1.4 ft²**
Fesco Board Minimum ¾" thick	**1 with 2**	**1:1.3 ft²**
Retro-Fit Minimum ½" thick	**1 with 2**	**1:1.3 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional if base sheet used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-75 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(3): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
DuraBoard **Minimum ¾" thick**	**1 with 2**	**1:1.3 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One or more plies of DynaWeld Base heat welded.

Membrane: One ply of DynaWeld FR or DynaWeld Cap 180 FR, heat welded.

Maximum Design Pressure: -75 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(4): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board, DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 Minimum 1.5" thick	**9 with 2**	**1:1.33 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: One ply of DynaBase, DynaBase XT or Ventsulation adhered to the insulated substrate with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Ply Sheet: (Optional) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane: One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

Maximum Design Pressure: -67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(5): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.3" thick**	**N/A**	**N/A**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board, DuraBoard **Minimum ¾" thick**	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**1 or 8 with 2**	**1:2 ft²**
Fesco Board, DuraBoard **Minimum ¾" thick**	**1 or 8 with 2**	**1:2 ft²**
Retro-Fit Board, DuraBoard **Minimum ½" thick**	**1 or 8 with 2**	**1:2 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-60 psf. (See general limitation #9).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(6): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board, DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Foam, DuraFoam Minimum 1.5" thick	**1 or 8 with 2**	**1:2 ft²**
Fesco Board Minimum ¾" thick	**1 or 8 with 2**	**1:2 ft²**
Retro-Fit Board, DuraBoard Minimum ½" thick	**1 or 8 with 2**	**1:2 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional if ply sheet used) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Ply Sheet: (Optional if base sheet used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaClad, DynaKap T1, DynaKap FR T1, FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel / Concrete

System Type C(7): All layers of insulation simultaneously mechanically fastened.

All General and System limitations apply.

Base Insulation Layer (Optional)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3, Fesco Foam, DuraFoam Minimum 1.5" thick	**N/A**	**N/A**
Fesco Board, DuraBoard Minimum ¾" thick	**N/A**	**N/A**

Note: Both layers of insulation shall be simultaneously mechanically fastened; see top layer below for fasteners and density.

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	**1 with 2**	**1:1.78 ft²**

Note: All layers of insulation shall be mechanically attached using the fastener density listed above. The insulation panels listed are minimum sizes and dimensions; if larger panels are used, the number of fasteners shall be increased maintaining the same fastener density. Insulation fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements. Please refer to Roofing Application Standard RAS 117 for insulation attachment.

Base Sheet: (Optional if Ply Sheet used) One ply of PermaPly No. 28, DynaBase, DynaBase XT, GlasBase, or GlasBase Plus adhered to the insulated substrate in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Ply Sheet: (Optional if Base Sheet used) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.

Membrane: One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Maximum Design Pressure: -75 psf. (See general limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Wood

System Type D(1): All layers of insulation and base sheet simultaneously mechanically fastened.

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.3" thick**	**N/A**	**N/A**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board, DuraBoard **Minimum ½" thick**	**N/A**	**N/A**
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board **Minimum ¼" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base/anchor sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: One ply of GlasPly Premier, PermaPly 28 or Ventsulation fastened to the deck as described below:

Fastening: Fasten base sheet with JM UltraFast screws and 3" metal plates at 8" o.c. in the lap and three additional rows in the field at 8" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(2): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base and/or Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3		
Minimum 1.5" thick	**N/A**	**N/A**

Top Insulation Layer (Optional if using 2" base layer)	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Retro-Fit Board		
Minimum ½" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S or DynaLastic 250 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch wide laps using JM High Load Fasteners and Plates spaced 12" o.c. The lap is heat welded.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.

Membrane: One or more plies of DynaClad, DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-67.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(3): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Foam, DuraFoam **Minimum 1.5" thick**	**N/A**	**N/A**
Fesco Board, Fiber Glass **Minimum ¾" thick**	**N/A**	**N/A**
Retro-Fit Board **Minimum ½" thick**	**N/A**	**N/A**
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board, Invinsa Roof Board **Minimum ¼" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment, prior to the installation of the base sheet, at a minimum application rate of two fasteners per board for insulation boards having no dimension greater than 4 ft., and four fasteners for any insulation board having no dimension greater than 8 ft. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: PermaPly No. 28 fastened to the deck through the insulation as described below:

Fastening: Fasten base sheet with JM UltraFast #12 screws and UltraFast Metal Plates at a 4" side lap 9" o.c. and two rows staggered in the center of the sheet 12" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: One or more plies of GlasPly Premier, GlasPly IV, DynaLastic 180 S, DynaLastic 250 S, DynaBase, DynaBase XT or DynaPly T1 adhered to the base sheet with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR, or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-82.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(4): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroFit Board **Minimum ½" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -112.5 (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(5): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroFit Board **Minimum ½" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c. The lap is heat welded.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -112.5 (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(6): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**
Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1" thick**		
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood **Minimum 5/8" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c. The lap is heat welded.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -135 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(7): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroFit Board **Minimum ½" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet within the 5-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c. The lap is heat welded.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -135 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(8): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Fesco Board **Minimum ¾" thick**	**N/A**	**N/A**
Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1" thick**		
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood **Minimum 5/8" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -150 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(9): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 **Minimum 1.5" thick**	**N/A**	**N/A**
Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
RetroFit Board **Minimum ½" thick**	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch wide laps using JM High Load Fasteners and Plates spaced 6" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -150 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7I: Recover

Deck Description: Steel

System Type D(10): All layers of insulation simultaneously mechanically fastened with base sheet.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
FescoBoard Minimum ¾" thick	**N/A**	**N/A**
DensDeck, DensDeck Prime, SECUROCK Gypsum-Fiber Roof Board Minimum ½" thick	**N/A**	**N/A**

Middle Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
ENRGY 3 Minimum 1" thick		

Top Insulation Layer	**Insulation Fasteners (Table 3)**	**Fastener Density/ft^2**
Plywood Minimum 5/8" thick	**N/A**	**N/A**

Note: Top layer shall have preliminary attachment prior to the installation of the base sheet at a minimum application rate of five (5) fasteners per 4 x 8 ft. board. All layers of insulation and base sheet shall be simultaneously fastened. See base/anchor sheet below for fasteners and density.

Base Sheet: DynaLastic 180 S fastened to the deck as described below:

Fastening: Fasten base sheet over the 4-inch wide laps using JM High Load Fasteners and Plates spaced 12" o.c. and in three, equally spaced, staggered rows in the field of the sheet at 12" o.c.

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: DynaWeld Base, heat welded.

Membrane: DynaWeld Cap FR, heat welded.

Maximum Design Pressure: -195 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Lightweight Concrete / Cementitious Wood Fiber / Gypsum

System Type E(1): Base sheet mechanically fastened.

Base Sheet: One ply of PermaPly 28, DynaBase, DynaBase XT, DynaPly T1, GlasPly Premier or Ventsulation fastened to the deck as described below.

Fastening: ***(Gypsum Decks):*** Fasten base sheet with JM UltraLok fasteners or ES Products Twin Loc-Nails spaced 9" o.c. at the 3" side lap and two rows staggered 12" o.c. in the field. Asphalt-applied Ply and Cap only.
(Meets -75 psf- See General Limitation #7.)

(Cementitious Wood Fiber Decks): Fasten base sheet with JM UltraLok fasteners or ES Products Twin Loc-Nails spaced 9" o.c. at the 3" side lap and two rows staggered 12" o.c. in the field. Asphalt-applied Ply and Cap only.
(Meets -82.5 psf See General Limitation #7.)

(Lightweight Concrete Decks): Fasten base sheet with JM UltraLok fasteners or ES Products Twin Loc-Nails spaced 9" o.c. at the 4" side lap and two rows staggered 9" o.c. in the field.
(Meets -60 psf- See General Limitation #7.)

(Lightweight Concrete Decks): DynaBase only Fasten base sheet with JM UltraLok fasteners or ES Products Twin Loc-Nails spaced 9" o.c. at the 4" side lap and two rows staggered 9" o.c. in the field. Asphalt-applied Ply and Cap only.
(Meets -75 psf- See General Limitation #7.)

Note: Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.

Ply Sheet: (Optional) One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaLastic 250 S, or DynaPly T1 adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.

Membrane: One ply of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.
2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Maximum Design Pressure: See Fastening Options above.

Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Wood

System Type E(2): Base sheet mechanically fastened.

All General and System limitations apply.

Base Sheet:	One ply of GlasPly Premier, PermaPly 28 or Ventsulation fastened to the deck as described below:
Fastening:	Base sheet shall be lapped 3" and fastened with JM UltraFast screws and 3" plates 8" o.c. in the lap and three rows staggered in the center of the sheet 8" o.c.
Note:	**Base sheet fasteners shall be tested for withdrawal resistance in compliance with Testing Application Standard TAS 105 to confirm compliance with the wind load requirements of applicable Building Code.**
Ply Sheet:	(Optional) One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, Glas Ply IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the a base sheet or perlite top layer with approved mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Base heat welded.
Membrane:	One or more plies of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250 FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq. or one ply DynaWeld Cap FR heat welded. Or (Only with a modified Base or Ply sheet) GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Surfacing:	(Optional) Install one of the following: 1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively. 2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.
Maximum Design Pressure:	-52.5 psf. (See General Limitation #7).

Membrane Type: SBS

Deck Type 7: Recover

Deck Description: Concrete

System Type F: Base sheet adhered with approved asphalt.

Base Sheet: One ply of PermaPly 28, DynaBase, DynaBase XT, GlasBase Plus, DynaPly T1 or Ventsulation adhered to the existing roof deck in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Ply Sheet: (Optional) One or more plies of DynaBase, DynaBase XT, GlasBase Plus, PermaPly 28, GlasPly Premier, GlasPly IV, DynaLastic 180S, DynaLastic 250 S or DynaPly T1 adhered to the base sheet in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.

Membrane: One ply of DynaKap T1, DynaKap FR T1, DynaMax FR, DynaGlas, DynaGlas FR, DynaGlas 30 FR, DynaGlas FR XT, DynaLastic 180, DynaLastic 180 FR, DynaLastic 180 S, DynaLastic 250, DynaLastic 250FR or DynaPly T1 adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with MBR Bonding Adhesive at an application rate of 1.5 gal./sq.
Or
(Only with a modified Base or Ply sheet) GlasKap or GlasKap CR Adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Surfacing: (Optional) Install one of the following:

1. Flood coat and gravel/slag with an application rate of 60 lbs./sq. & 400 lbs./sq., respectively.

2. GlasKap or GlasKap CR adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq.

Maximum Design Pressure: -275 psf. (See General Limitation #9)

RECOVER SYSTEM LIMITATIONS:

1. All System Limitations and General Limitations shall apply. See specific deck type Notice of Acceptance for deck type System Limitations.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance; refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. Insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE